

What is claimed is:

- 1 1. A device comprising:
 - 2 a first antenna;
 - 3 a second antenna;
 - 4 an antenna switching function communicatively coupled to the first and second
 - 5 antennas;
 - 6 a first wireless telecommunications function communicatively coupled to the antenna
 - 7 switching function;
 - 8 a second wireless telecommunications function communicatively coupled to the
 - 9 antenna switching function; and
 - 10 an arbitration function, communicatively coupled to the antenna switching function
 - 11 and the first and second wireless telecommunications functions, and adapted to control
 - 12 access to the first and second antennas by the first and second wireless telecommunications
 - 13 functions according to a defined prioritization scheme.
- 1 2. The device of claim 1, wherein either or both of the first or second wireless
- 2 telecommunications functions may require simultaneous access to both the first and second
- 3 antennas.
- 1 3. The device of claim 1, wherein the first wireless telecommunications function
- 2 comprises a wireless LAN technology.
- 1 4. The device of claim 3, wherein the wireless LAN technology comprises a wireless
- 2 LAN according to IEEE 802.11g standards.

1 5. The device of claim 3, wherein the wireless LAN technology may require
2 simultaneous access to both the first and second antennas.

1 6. The device of claim 1, wherein the second wireless telecommunications function
2 comprises a Bluetooth wireless technology.

1 7. The device of claim 1, wherein the antenna switching function is implemented as an
2 independent structure.

1 8. The device of claim 1, wherein the antenna switching function is integrated with the
2 arbitration function.

1 9. The device of claim 1, wherein the arbitration function is implemented as an
2 independent structure.

1 10. The device of claim 1, wherein the arbitration function is integrated with at least a
2 portion of either the first or second wireless telecommunications functions.

1 11. The device of claim 1, wherein the arbitration function is adapted to control access by
2 forcing radio silence at least one of the first or second wireless telecommunications
3 functions.

1 12. The device of claim 1, wherein the defined prioritization scheme comprises an access
2 contention function.

1 13. The device of claim 12, wherein one of the first or second wireless
2 telecommunications functions is adapted to trigger the access contention function.

1 14. A method of providing simultaneous operation of disparate wireless
2 telecommunication technologies within a single device, comprising the steps of:
3 providing a device having a plurality of antennas;
4 providing an antenna switching function communicatively coupled to the plurality of
5 antennas;
6 providing a first wireless telecommunications function communicatively coupled to
7 the antenna switching function;
8 providing a second wireless telecommunications function communicatively coupled
9 to the antenna switching function;
10 providing an arbitration function communicatively coupled to the antenna switching
11 function and the first and second wireless telecommunications functions;
12 providing a defined prioritization scheme; and
13 utilizing the arbitration function to control access to the plurality of antennas by the
14 first and second wireless telecommunications functions according to the defined
15 prioritization scheme.

1 15. The method of claim 14, wherein the antenna switching function allocates access to
2 an antenna by the first or second wireless telecommunications function under control of the
3 arbitration function.

1 16. The method of claim 14, wherein either or both of the first or second wireless
2 telecommunications functions may require simultaneous access to multiple antennas.

- 1 17. The method of claim 14, wherein the step of providing a first wireless
2 telecommunications function further comprises providing a wireless LAN technology.
- 1 18. The method of claim 17, wherein the wireless LAN technology comprises wireless
2 LAN technology according to IEEE 802.11g standards.
- 1 19. The method of claim 17, wherein the wireless LAN technology may require
2 simultaneous access to multiple antennas.
- 1 20. The method of claim 14, wherein the step of providing a second wireless
2 telecommunications function further comprises providing a Bluetooth wireless technology.
- 1 21. The method of claim 14, wherein the step of providing an arbitration function further
2 comprises providing hardware implementing an arbitration function.
- 1 22. The method of claim 14, wherein the step of providing an arbitration function further
2 comprises providing software implementing an arbitration function.
- 1 23. The method of claim 14, wherein the step of utilizing the arbitration function to
2 control access further comprises utilizing the arbitration function to disable radio
3 transmission of at least one of the first or second wireless telecommunications functions.
- 1 24. The method of claim 14, wherein the step of providing a defined prioritization
2 scheme further comprises providing an access contention function.
- 1 25. The method of claim 24, wherein one of the first or second wireless
2 telecommunications functions may initiate the access contention function.

1 26. The method of claim 24, wherein the step of providing an access contention function
2 further comprises providing a bias mechanism.

1 27. The method of claim 26, wherein the step of providing a bias mechanism comprises
2 providing a bias in favor of the first wireless telecommunications function.

1 28. The method of claim 26, wherein the step of providing a bias mechanism comprises
2 providing a bias in favor of the second wireless telecommunications function.

1 29. The method of claim 14, wherein the step of providing a defined prioritization
2 scheme further comprises providing first priority to speech communications over one of the
3 wireless telecommunications functions.

1 30. The method of claim 14, wherein the step of providing a defined prioritization
2 scheme further comprises providing for simultaneous transmission by the first and second
3 wireless telecommunications functions.

1 31. The method of claim 14, wherein the step of providing a defined prioritization
2 scheme further comprises providing for simultaneous reception by the first and second
3 wireless telecommunications functions.